FAULT DETECTION AND VIRTUAL SENSOR METHODS FOR TOOL FAULT MONITORING

ABSTRACT OF THE DISCLOSURE

Fault detection of a semiconductor processing tool employs several techniques to improve accuracy. One technique is sensor grouping, wherein a fault detection index is calculated from a group of tool operational parameters that correlate with one another. Another technique is sensor ranking, wherein sensors are accorded different weights in calculating the fault detection index. Improved accuracy in fault detection may be accomplished by employing a variety of sensor types to predict behavior of the semiconductor processing tool. Examples of such sensor types include active sensors, cluster sensors, passive/inclusive sensors, and synthetic sensors.